

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		138FM03		
PRESSURE TRANSDUCER, FEEDWATER, ITEM 138 ----- SV767793-6 (1)	2/1RB	Electrical short. Contamination on the electrical connector, faulty leads.	END ITEM: Loss of sensor output. GFE INTERFACE: Increase in battery power consumption. The current is limited in the DCM DC/DC converter to 1.8 +/- 0.25 amps. Shutdown of the DC/DC converter. Loss of CWS, tones, and DCM display. MISSION: None for single failure. Terminate EVA with loss of DCM display, CWS, and ability to monitor the EMU. Loss of use of one EMU. CREW/VEHICLE: None for single failure. Possible loss of crewman with loss of CCC, oxygen, or low vent flow. TIME TO EFFECT /ACTIONS: Minutes.	A. Design - -2 and -6 Conrac and -8 Gulton: The wiper/coil assembly wiring are sealed in a protective metal case and are protected from the environment by a hermetic seal. Solder joints are encased in potting for additional strain relief. B. Test - Component Acceptance Test - The Feedwater pressure transducer is subjected to random vibration testing (6.1g rms) to insure there are no workmanship or material defects that would cause shorting problems. The sensor is subjected to calibration testing at low and high temperature (32 degrees F to 120 degrees F) to ensure there are no workmanship problems that would cause a short circuit between the sensor circuit and the case. The sensor is calibration checked during acceptance testing to ensure there are no short circuits. PDA Test - the sensor is calibration checked, as assembled on the shear plate, to ensure there are no short circuits. Certification Test - Certified for a useful life of 20 years (ref. EMUM1-0084). C. Inspection - The sensor is visually inspected prior to case assembly. The sensor is calibration checked in the assembly process to ensure there are no short circuits. D. Failure History - None: Related failure: H-EMU-153-001 (4-22-87) Shield circuit resistance too high. The high resistance was a result of the use of a lubricant on the interfacing connector shell surface. This prevented proper grounding of the mating connector. EC-42807-129-2 Adds a grounding ring, provided by Bendex Corporation, to all units. There is no impact on certification. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Transducer and DCM Gage Calibration Check. FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing. F. Operational Use - Crew Response - PreEVA: Trouble shoot problem, if no success consider EMU 3 if available. EVA: When loss of CWS displays and tones detected, and unable to monitor the EMU, terminate EVA. Training - Standard EMU training covers this mode. Operational Considerations - Flight rules define an operational CWS as at least
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		138FM03	TIME REQUIRED: Minutes. REDUNDANCY SCREENS: A-PASS B-FAIL C-PASS	able to monitor a valid status list. EVA checklist procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-138 FEEDWATER PRESSURE SENSOR
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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